

## **REMARKS**

Applicant is in receipt of the Office Action mailed January 13, 2005. Claims 8, 39, and 41 have been cancelled. Claims 1, 6, 7, 10-12, 14-18, 21-13, 26, 29-34, 40, 43, 44, 46, and 49-51 have been amended to clarify the claimed invention. Thus, claims 1-7, 10-23, 26, 29-38, 40, 43-46, and 49-53 remain pending in the case. Reconsideration of the present case is earnestly requested in light of the following remarks.

### **Section 102 Rejections**

Claims 1-8, 10-23, 26, 29-41, 43-46, and 49-53 were rejected under 35 U.S.C. 102(e) as being anticipated by Ohara et al (“Ohara”, USP 6,366,300). Applicant respectfully disagrees.

The independent claims (i.e., claims 1, 16, 17, 18, 21, 23, 26, 34, and 46) were amended to clarify the terms “graphical program” and “graphical source code”, to replace the term “programmatically” with “automatically”, and to emphasize that the automatic generation is performed without direct user input specifying the specifics of the generated graphical program or graphical source code.

Amended claim 1 recites:

1. A computer-implemented method for programmatically generating a graphical program, the method comprising:

displaying a graphical user interface (GUI) on a display;  
receiving user input to the GUI specifying desired functionality of the graphical program; and

automatically generating the graphical program in response to the user input specifying the functionality of the graphical program, wherein the graphical program implements the specified functionality;

wherein the graphical program comprises a block diagram portion comprising a plurality of interconnected nodes, and a graphical user interface portion, wherein the

plurality of interconnected nodes visually indicate functionality of the graphical program; and

wherein said automatically generating the graphical program includes generating the block diagram portion without direct user input specifying the plurality of nodes or connections between the nodes.

As the Examiner is certainly aware, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Moreover, an ‘anticipating’ reference must describe all of the elements and limitations of the claim in a single reference, and enable one of skill in the field of the invention to make and use the claimed invention. *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1378-79 (Fed. Cir. 2001); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1989).” *In re Merck & Co., Inc. v. Teva Pharm. USA, Inc.*, 347 F.3d 1367, 1372 (Fed. Cir. 2003).

Applicant notes that claims 8, 39, and 41 have been cancelled, thus rendering their rejections under 102(e) moot.

Regarding claim 1, the Office Action asserts that Ohara teaches that the graphical program comprises a user interface portion, referring to col. 65, lines 44-47, and Figure 66. However, as argued in the previous response, which is hereby incorporated by reference, Ohara fails to teach including a graphical user interface portion in a generated graphical program. For example, col. 65, lines 44-46 recite:

Further, according to the present invention, by using a behavior verification unit, the user is capable of verifying the behavior of a created program with ease.

The Office Action also cites Figure 66 in asserting that Ohara teaches that the generated graphical program includes a user interface portion, stating that Figure 66 “shows on/off button for user interaction”.

Applicant respectfully submits that the Examiner has mischaracterized Ohara. For example, Applicant notes that the user interfaces described by Ohara are not part of the generated graphical program, but rather are comprised in various portions of Ohara’s development system or tools used to generate and/or verify the generated graphical program, e.g., Ohara’s “behavior verification unit”, mentioned in the cited portion of Ohara, Ohara’s . As Ohara describes with reference to Figure 2 in col. 20, lines 50-60:

At the step ST6, results of the operations carried out at the steps ST1 to ST5, that is, results of the programming work, are verified. When the setting of behavioral rules is finished, a behavior verification window 1300 shown in FIG. 14 is displayed on the display apparatus 1. On the behavior verification window 1300, the 3 input signals X000, X001 and X002, that is, the behavior relevant signals of the output signal Y000, are displayed as a rudder diagram. That is to say, the behavior verification window 1300 which displays behavioral characteristics of the output signal appears on the display apparatus 1.

Applicant notes that step ST6 of Figure 2 is simply a verification step in the development process of Ohara, and respectfully submits that the user interface of the behavior verification unit is *not* a user interface portion of Ohara’s generated graphical program. Applicant notes that Ohara’s Figure 66 illustrates “a typical user interface of the behavior verification unit” (col. 61, lines 9-10). Applicant submits that Ohara’s behavior verification unit is specifically *not* a portion of the generated graphical program, but rather is a tool used to verify the functionality of the generated graphical program, and notes that other tools for aiding in the generation of the graphical program described in Ohara include: a “behavior characteristic selection unit”, “behavioral object selection unit”, “behavioral condition setting unit”, and a “relevant object selection unit”. Applicant further notes that one or more of these additional tools also includes a respective graphical user interface which is similarly *not* a portion of the generated graphical program. Applicant can find no reference teaching or suggesting that the graphical program comprises a graphical user interface portion, nor any reference

teaching or suggesting that automatically generating the graphical program includes generating a graphical user interface portion.

Additionally, as noted in the previous response, a program generated for, transferred to, and executed on, a programmable logic controller (PLC) would not include such a graphical user interface portion, such PLCs lacking display functionality.

Applicant further submits that Ohara fails to teach or suggest “wherein said automatically generating the graphical program includes generating the block diagram portion without direct user input specifying the plurality of nodes or connections between the nodes”, as recited in claim 1. For example, Ohara states:

“in the system adopting the visual programming method according to the present invention, the transfer means transfers *a plurality of graphical objects selected by a user from among the graphical objects displayed* by the display means for creating and displaying graphical objects each defining a behavior to the layout diagram.” (col. 10, lines 51-58).

Additionally, claim 1 of Ohara recites in pertinent parts:

“a third step of connecting a first graphical object *selected by a user* from the graphical objects...to a second graphical object selected by the user from the graphical objects...”(col. 66, lines 9-14)

“a fourth step of allowing *a user to select a graphical object or a plurality of graphical objects* from said graphical objects each used for defining a function ...”(col. 66, lines 16-18)

“a seventh step of allowing *the user to select one of said graphical objects* each used for defining a function...”(col. 66, lines 25-26)

Similar user-selection of graphical objects is also included in the eighth and ninth steps of claim 1.

Furthermore, Applicant notes that Ohara explicitly excludes automatic generation of a program from the description of Ohara’s invention:

“In the following description, only matters related to the user interface characterizing the visual programming method are explained, excluding

automatic generation of a program *because the automatic generation of a program is the same as the conventional system.*”(col. 16, lines 26-28)

In other words, Ohara does not consider the automatic generation of the program in Ohara’s system and method to be novel, and does not disclose how it is performed, other than to say it is performed according to prior art approaches.

Thus, for at least the reasons provided above, Applicant asserts that Ohara fails to teach all the features and limitations of claim 1, and so claim 1 and those claims dependent therefrom are patentably distinct and non-obvious over Ohara, and are thus allowable.

Claims 16, 17, 18, and 34 include similar limitations as claim 1, and so the above arguments apply with equal force to these claims. Thus, for at least the reasons provided above, Applicant asserts that Ohara fails to teach all the features and limitations of claims 16, 17, 18, and 34, and so claims 16, 17, 18, and 34, and those claims respectively dependent therefrom, are patentably distinct and non-obvious over Ohara, and are thus allowable.

Regarding claim 23, the Office Action asserts that Ohara teaches all the features and limitations Applicant respectfully submits that the Examiner has again mischaracterized Ohara.

Amended claim 23 recites:

23. A computer-implemented method for automatically generating a graphical program, the method comprising:

displaying a node in the graphical program in response to user input;

displaying a graphical user interface (GUI) for configuring functionality for the node in response to user input;

receiving user input via the GUI indicating desired functionality for the node; and

automatically including graphical source code associated with the node in the graphical program, wherein the automatically included graphical source code implements

the desired functionality, and wherein the graphical source code comprises a plurality of interconnected nodes that visually represent the desired functionality;

wherein said automatically including graphical source code associated with the node in the graphical program comprises automatically including the graphical source code as a sub-program of the graphical program without direct user input specifying the plurality of nodes or connections between the nodes, wherein the node represents the sub-program.

In asserting that Ohara teaches “programmatically including the graphical source code as a sub-program of the graphical program wherein the node represents the sub-program”, the Examiner states, “since the graphical source code is included in the graphical program, the graphical source code is a part of the program or a subprogram”. In other words, the Examiner has apparently attempted to define sub-program as meaning *any* component of a program. Applicant respectfully disagrees.

According to this definition, any element or component of a program would be a subprogram, including for example, a single semicolon, a left parenthesis, a single letter in a variable name, or even a space. Applicant submits that the term “sub-program” is a well-known term of art in the field of programming, and is well understood by those skilled in the art to refer to a program which is represented by and invocable via a program or function name, or, in the case of a graphical program, by and via a node or icon. In the present application, a sub-program is itself a program represented by a node which may be included in other graphical program, and which is executable by that other program via execution of the node. Ohara nowhere discloses this feature.

Moreover, as argued in the previous Response, Ohara teaches that when “devising” new inputs (a new node in the program source) **the resultant source is placed *inline with* existing program source** (Ohara, Figures 56 and 57), and that the *identical functionality and programming user interfaces* are used when devising a set of inputs as when originally defining program functionality (Ohara, column 55, lines 36-48, and column 56, lines 60-64). Thus, rather than associating the new graphical source with a single new node in the program source code, such that the new node (representing the new graphical source) is displayed when viewing the program source code, Ohara teaches that **the resultant new**

*graphical source code itself is inserted into the program source code.* In other words, every piece of the new graphical source code is displayed inline with older, pre-existing program source code (rather than being represented by a single new node or programming box).

Thus, Applicant respectfully submits that Ohara fails to teach, suggest, or even hint at this limitation.

Additionally, similar to above, Applicant further submits that Ohara fails to teach or suggest “automatically including the graphical source code as a sub-program of the graphical program *without direct user input specifying the plurality of nodes or connections between the nodes, wherein the node represents the sub-program.*”

Thus, Applicant submits that Ohara fails to teach or suggest all the features and limitations of claim 23.

Thus, for at least the reasons provided above, Applicant submits that claim 23 and those claims dependent therefrom are patentably distinct and non-obvious over Ohara, and are thus allowable.

Claims 21, 26, and 46 include similar limitations as claim 23, and so the above arguments apply with equal force to these claims. Thus, for at least the reasons provided above, Applicant asserts that Ohara fails to teach all the features and limitations of claims 21, 26, and 46, and so claims 21, 26, and 46, and those claims respectively dependent therefrom, are patentably distinct and non-obvious over Ohara, and are thus allowable.

Removal of the 102 rejection of claims 1-8, 10-23, 26, 29-41, 43-46, and 49-53 is respectfully requested.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

## CONCLUSION

In light of the foregoing amendments and remarks, Applicant submits the application is now in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-48300/JCH.

Also enclosed herewith are the following items:

- Return Receipt Postcard
- Request for Continued Examination
- Information Disclosure Statement

Respectfully submitted,



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